Teacher’s notes

Jigsaw activity is best suited for a class size of about 30 students. For example, if the class has 32 students, there would be 8 home groups with 4 students in each of the groups and similarly 4 expert groups with 8 students in each of the groups. If the number of students in the class is not divisible by 4, teacher may ask students to join one of the groups with correct number of students.

Day 1

* 35 min – introduction to Experiment 1: Investigating Chemical Reactions
* 40 min Chemical Reactions Jigsaw activity

Day 2

* 15 min Power Point presentation that is based on Cue Cards
* For the next 60 min, do the lab

Day 3 (RECAP)

* 10 min, members of the Expert Groups get together to talk about problems
* 10 min, members of the Home Groups address the problems on class wiki

Appendix 1

Prep work: teacher will cut out different colored construction paper so that students can start modeling their assigned reaction right away

* Divide students into **Home Groups** (number them A, B, C, D)
* Use cards to divide students into Home Groups and Expert Groups
* Front of the card will be used to label Expert Groups, back of the card will be used to label Home Groups
* Use these labels for the front of the cards A: synthesis, B: decomposition, C: single displacement, D: double displacement
* Use these labels for the back of the cards: 1, 2, 3… (for ex. Home team 1, home team 2 etc.)
* You may also use different color for cards do differentiate Home Groups (for ex. Red Home Group, Blue Home Group etc.)

Appendix 2

Suggested student answers

**Synthesis**

+

🡪

Mg + Cl2 🡪 MgCl2

Mg-green ball

Cl-red ball

**Decomposition**

🡪 2 +

2

2 H2O2 → 2 H2O + O2

O-red ball

H-white ball

**Single displacement**

+ 🡪 +

Li-blue

Na-yellow ball

Cl-green ball

**Double displacement**

+ 2 🡪 + 2

Na-blue ball

S-yellow ball

Cl-red ball

* Make sure students are labeling in their notebooks different atoms according to the color of the ball they are using (like in the suggested students’ answers examples provided in Appendix 2)

Appendix 3

* Use the Cue Cards that you collected at the end of the period (Day 1) to prepare a 15 min Power Point presentation
* For example some of the student questions on Cue Cards could be: what makes something a chemical reaction; what are some examples of synthesis reactions; can Li displace Zn etc.

Power Pint presentation that addresses students’ questions from Cue Cards



























